



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE

United States Patent and Trademark Office

Address: COMMISSIONER FOR PATENTS

P.O. Box 1450

Alexandria, Virginia 22313-1450

www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/735,631	12/16/2003	Sang-hyub Lee	1793.1067	2658
21171 7590 06/02/2008				
STAAS & HALSEY LLP				
SUITE 700				
1201 NEW YORK AVENUE, N.W.				
WASHINGTON, DC 20005				
EXAMINER				
BLOUIN, MARK S				
ART UNIT		PAPER NUMBER		
2627				
MAIL DATE		DELIVERY MODE		
06/02/2008		PAPER		

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/735,631

Applicant(s)

LEE, SANG-HYUB

Examiner

Mark Blouin

Art Unit

2627

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1, 2, 4, 7, 8, 10, 13, 15-20 and 22 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1, 2, 4, 7, 8, 10, 13, 15-20 and 22 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB-08)
Paper No(s)/Mail Date ____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date ____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: ____

Detailed Action

Response to Amendment

- The reply filed on July 5, 2007 was applied to the following effect: Claims 1,7,13,20, and 22 were amended, and Claims 3,5,6,11,12,14, and 21 were cancelled

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1,2,4,7,8,13,15, and 17-20 are rejected under 35 U.S.C. 102(b) as being anticipated by Brannon et al (USPN 6,530,258).
3. Regarding Claims 1,7,13, and 20, Brannon et al shows (Figs. 1-4) a head flying height measurement apparatus comprising: a disk (115) having a plurality of protrusions (45) with a height greater than an estimated flying height of a slider formed on a surface of the disk; a head assembly of a disk drive having a magnetic head and a slider (129) disposed at an end of the head assembly, wherein the slider floats above the disk when the disk is rotated and cuts the protrusions to leave a portion of each protrusion below a bottom edge of the slider on the surface of the disk; and a measurement device (Col 4, lines 19-29), wherein the measurement device measures a height of the portion of the protrusions remaining on the surface of the disk that corresponds to a flying height of the slider.

4. Regarding Claims 2 and 8, Brannon et al shows (Figs. 1-4) the head assembly is a magnetic head assembly and the disk is a magnetic recording disk (115).
5. Regarding Claims 4 and 10, Brannon et al shows (Figs. 1-4) the method, wherein the protrusion is formed by generation of asperities (45) due to migration of a substance of a base layer of the disk.
6. Regarding Claim 15, Brannon et al shows (Figs. 1-4) the method, wherein the determining of the actual flying height comprises measuring the cut protrusion with an AFM (Col 2, lines 13-21).
7. Regarding Claim 17, Brannon et al shows (Figs. 1-4) the method, wherein the determining of the actual flying height comprises measuring the cut protrusion (45/47) with a scanning probe microscopy (Col 2, lines 13-21).
8. Regarding Claim 18, Brannon et al shows (Figs. 1-4) the method, further comprising: installing the disk having protrusions formed on the surface in a hard disk drive having the slider of the head assembly; and removing the disk from the hard disk drive after the cutting of the protrusion and prior to the determining of the actual flying height of the slider (Col 2, lines 1-43).
9. Regarding Claim 19, Brannon et al shows (Figs. 1-4) the method wherein the hard disk drive includes a plurality of disks having protrusions formed on the surface and a plurality of sliders corresponding to the plurality of disks (Col 3, line 28).

Allowable Subject Matter

10. Claims 16 and 22 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mark Blouin whose telephone number is 571-272-7583. The examiner can normally be reached on M-F from 6:00 to 3:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mr. Joe Feild, can be reached on 571-272-4090. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/Mark Blouin/

Primary Examiner of Art Unit 2627

Mark Blouin
Patent Examiner
Art Unit 2627
May 28, 2008